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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,595

08/20/2003

Takahiro Maemura

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5560

7590

11/03/2004

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EXAMINER

HUNNINGS, TRAVIS R

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,595

Applicant(s)

MAEMURA ET AL.

Examiner

Travis R Hunnings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: in figures 15A and 15B the reference 33 is not mentioned in the specification; in figure 21 the reference V80 is not mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: page 40, line 15, the listed reference numeral **43f** should be changed to **41f**.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abersfelder et al. (Abersfelder; US Patent 5,646,614) in view of Sakiyama et al. (Sakiyama; US Patent 6,567,726).

Regarding claim 1, Abersfelder discloses *System for Monitoring the Front or Rear Parking Space of a Motor Vehicle* that discloses the following claimed subject matters:

The claimed camera being installed on the front of the vehicle and configured to capture an image from a side of the vehicle is met by the video camera built into either the front or rear of the vehicle (col1 38-42). The camera is provided with a pivoting (turn and tilt) function that would inherently be able to provide images from a lateral side of the vehicle;

The claimed image display unit installed in a cabin of the vehicle and configured to display the image captured by the camera is met by the display screen being fitted in the field of view of the vehicle driver (fig 1, element 15.1 and col1 38-42).

However, Abersfelder is silent on the claimed image information control unit configured to control image information on the image display unit and to superimpose indicators to guide the vehicle to the reference position on the image. Sakiyama discloses *Vehicle Driving Support System, and Steering Angle Detection Device* that teaches using an exterior camera along with an interior display unit and a control means that superimposes a driving support path over the image captured by the camera to assist the driver with a parking operation (col3 40-47 and col4 4-10). It would be an added advantage to the driver of the vehicle to incorporate a control means that computes a driving support path and superimposes that path on top of the image captured by the camera and displays the combined image to the driver to assist in correct parking operations. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Abersfelder according to the teachings of Sakiyama to include a control means that superimposes a driving support path on the image captured by the camera to assist in parking operations.

Regarding claim 4, Abersfelder discloses all the claimed limitations except for the claimed indicators including a longitudinal direction guideline for positioning the vehicle in the longitudinal direction thereof and a lateral direction guideline for positioning the vehicle in the lateral direction thereof. Sakiyama teaches guidelines being displayed on the display screen to help the driver reliably park the vehicle in a parking space (col12

13-48 and figs. 4 and 5). The guidelines would help the user execute a parking maneuver by showing where the projected position of the car should go. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder according to the teachings of Sakiyama to incorporate guidelines that show the desired lateral and longitudinal position of the car in a parking maneuver.

Regarding claim 10, the claim is interpreted and rejected as claim 1 stated above.

Regarding claim 11, the claim is interpreted and rejected as claim 1 stated above.

5. Claims 2, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abersfelder in view of Sakiyama and further in view of Kakinami et al. (Kakinami; US Patent 6,476,730).

Regarding claim 2, Abersfelder and Sakiyama disclose all of the claimed limitations except for the claimed parking assistance apparatus comprising an instruction unit that gives a start instruction of the parking assistance wherein when the start instruction is given the indicators are superimposed on the image of the display unit. Kakinami discloses *Assistant Apparatus and Method for a Vehicle in Reverse*

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Motion that teaches displaying parking assistance indicators after selecting a particular parking mode (col10 5-43). The selective starting and displaying of the assistance indicators would eliminate unneeded assistance indicators being displayed when the user does not want to park. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder and Sakiyama according to the teachings of Kakinami to include a start instruction that selectively initiates the display of the parking assistance indicators. It is inherent that there exists an instruction unit to handle these operations.

Regarding claim 5, Abersfelder and Sakiyama disclose all of the claimed limitations except for the claimed instruction unit superimposing a lateral direction guideline on the display after a start instruction is given for both back-in parking and parallel parking. Kakinami teaches displaying a target path on the display screen after choosing a particular parking mode, either back-in or parallel (col10 5-43 and col11 4-62, figs. 12a-d, 13a-c, 16a-d, 17a-c and 18a-c). The display of the target path helps the driver to successfully negotiate the vehicle into the desired parking space, while the selective method allows the driver to choose which type of parking operation they want to perform. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder and Sakiyama according to the teachings of Kakinami to include lateral direction guidelines that are displayed when either the back-in or parallel parking modes are selected.

Regarding claim 6, Abersfelder, Sakiyama and Kakinami disclose all of the claimed limitations except for the claimed longitudinal direction guidelines being spaced corresponding to the full length of the vehicle. Sakiyama teaches superimposing the contour of the vehicle on the display screen (col1 49-52). Having the vehicle outline displayed on the screen would help the driver to gain an intuitive ascertainment of distance and help them to park easier. It is inherent that the outline of the car so displayed would correspond to the actual dimensions, and hence the full length, of the vehicle. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder, Sakiyama and Kakinami to include longitudinal direction guidelines in the shape of the outline of the car that corresponds to the actual dimensions of the vehicle.

Regarding claim 7, the claim is interpreted and rejected as claim 6 stated above.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abersfelder in view of Sakiyama and further in view of Kakinami and further in view of Shimazaki et al. (Shimazaki; US Patent 6,711,473).

Regarding claim 3, Abersfelder, Sakiyama and Kakinami disclose all the claimed limitations except for the claimed start instruction for parallel parking that selects from either a left direction or right direction. Shimazaki discloses *Parking Assistance Device* that teaches giving parking assistance instructions for either right side or left side

parallel parking depending on which side the user selects (col2 29-32). The ability to get parking assistance for parallel parking for either side of the vehicle would be beneficial to the user because one would want the ability to park on either side of the road, hence it adds to the robustness of the invention. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder, Sakiyama and Kakinami according to the teachings of Shimazaki to include parking assistance from either side of the vehicle.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abersfelder in view of Sakiyama and further in view of Okamoto (US Patent 6,587,760).

Regarding claim 9, Abersfelder and Sakiyama disclose all of the claimed limitations except for the claimed indicator being a mark to schematically indicate the vehicle position at the completion of parking. Okamoto discloses *Motor Vehicle Parking Support Unit and Method Thereof* that teaches superimposing the image of a vehicle onto the desired parking space where the vehicle will be parked (col2 60-67). The destination image of the vehicle provides the driver with an intuitive understanding of where the vehicle should end up. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Abersfelder and Sakiyama according to the teachings of Okamoto to include a superimposed image of the vehicle in the desired parking position.

Allowable Subject Matter

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,778,891 (Tanaka et al.) Parking Assistance Device and Method...

US Patent 6,483,429 (Yasui et al.) Parking Assistance System

US Patent 6,587,760 (Okamoto) Motor Vehicle Parking Support Unit...

US Patent 6,621,421 (Kuriya) Vehicle Backward Movement Assisting...

US Patent 6,483,442 (Shimizu et al.) Parking Aid System

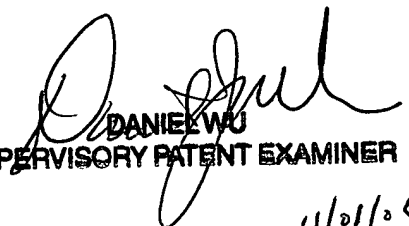
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Travis R. Hunnings



DANIEL WU
SUPERVISORY PATENT EXAMINER
11/21/04